

FDOT - ADA in Design, Construction, and Maintenance  
Questions and Answers

- Q Is a 4" or 6" drop-off at back of sidewalk permitted? An example is when the back side of a sidewalk also serves as a parking area, etc.
- A FDM 222.2.1.3 A clear 1-foot-wide graded area with a maximum 1:6 slope should be provided adjacent to the sidewalk. Edge drop-offs should be avoided. When drop-offs cannot be avoided, they should be shielded as discussed in FDM 222.4.
- Sidewalks abutting a curb line on the back side (like adjacent to a parking lot) would not require shielding or other treatment. That condition is similar to a sidewalk that's located immediately adjacent to back of curb along the roadside.
- Q In the scenario that there are bridges which wouldn't fit a landing due to design and have a running slope of more than the maximum 8.33%, what are the solutions?
- A FDM 222.2.1.3 When sidewalk is adjacent to the roadway (i.e., located back of curb or consistent separation from curb), sidewalk grades may mirror the roadway profile. A sidewalk on a bridge, by definition, is following the roadway profile.
- Q Is there a maximum 'Flush' tolerance, i.e., .250" or is it 0.00" for detectable warning pads to the adjacent concrete surface?
- A Maximum allowable change in level for the walking surface is 1/4". In my experience, the thickness of the Detectable Warning Surface (DWS) mat is usually < 1/4". Otherwise, the contractor may elect to inset the mat into 'green' concrete.
- Q If a hardened centerline cannot be achieved, is a Design Variation (DV) required?
- A FDM 210.3.3 Provide a hardened centerline where it is not possible to provide a pedestrian refuge island.
- FDM criteria in this instance is an imperative: "Provide a hardened centerline...". I would say a DV is required when it cannot be achieved. I suggest checking with the Department's Design project manager(PM) for the project to confirm district preference.
- Q Are detectable warnings required at driveway crossings?
- A FDM 222.3 Detectable warnings should not be placed where sidewalk intersects urban flared driveways or on sidewalks that run continuously through residential driveways. Do not place detectable warnings on transition slopes or over grade breaks. Further guidance on detectable warnings is provided in Standard Plans, Index 522-002.
- Best rule of thumb is that if the driveway warrants traffic control (e.g., signal, stop or yield sign), then DWS are required.

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- Q At a curb ramp to meet the max 5-feet back from the curb, can the detectable warning be strapped across the width of the sidewalk?
- A Ultimately, for the safety of individuals with visual disabilities, the DWS must be properly located relative to the interface with the roadway - even if that means placing it within the sidewalk itself. So, I would say to use your best engineering judgement for its placement. If you need assistance, you can always send a figure to the district PM and/or the district ADA coordinator.
- Q Do you have examples of design exceptions that are approved within non-compliant ADA ramp design?
- A Just for clarity, a Design Exception only applies to the AASHTO Controlling Ten Design Elements. ADA criteria is not included in the Controlling 10, so deficiencies in ADA elements are considered a Design Variation. I do not have examples but would suggest reaching out to the district PM or district ADA coordinator for additional guidance.
- Q You have shown earlier handholes installed at the ADA ramp. Is this allowed in general, or it requires a variation? In D6 for permitting purposes, the field inspectors always mention to put handholes a minimum 1 foot away from the ramp.
- A FDM 222.2.2 Pull boxes, manholes (and other utility covers), and other types of existing surface features in the location of a proposed curb ramp or detectable warning should be relocated. When relocation is not feasible, adjust the feature to meet the ADA requirements for surfaces (including the provision of a nonslip top surface, and adjustment to be flush with and at the same slope as the adjacent surface).
- Q Will the next version of the Florida Greenbook have more criteria selection based on context classification? For instance, lane width in the FDM is context based and in the Florida Green Book it is functional classification based. I have not had the opportunity to see if this irregularity also applies to pedestrian criteria for sidewalks or SUP's.
- A The new 2022 Florida Greenbook is up on the Greenbook web page so you can have a look. Criteria in the Greenbook is also context based. Look at Table 3-1 Minimum and Maximum Design Speed and you'll see criteria is presented first by functional classification, then land use (rural versus urban), then volume of traffic (AADT), then terrain (level, rolling, all), and then design speed. If you compare the design speed criteria in the Greenbook versus the FDM, you'll see that Greenbook has a much greater range of allowable design speeds. This is especially true at the lower speeds, that tend to be more correlated with urban places where people are more likely to be walking or cycling. The Greenbook has 15 different context classifications that guide design speed. <https://www.fdot.gov/roadway/floridagreenbook/fgb.shtm>

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Q Are design variations and complete street compliance not required for minor project to RRR or 2R or CAPM funded project?

A Design Variations on state projects are required for all design elements that do not meet FDOT criteria, including but not limited to the FDM, Standard Plans, Specs, Drainage Manual, etc. See FDM 122; and, FGB Ch. 14 for local projects.

Q Similar to the driveway question, when replacing a concrete crack within a sidewalk curb ramp, should the entire curb ramp be replaced or just that slab? This would be assuming that the slab within the curb ramp meets current ADA requirements.

A SP 522-002, General Notes 1.D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp (sloped) portion of the Curb Ramp.

If the crack is significant enough to warrant slab replacement, then the entire ramp would probably need to be replaced so that there are no joints in the sloped portion of the curb ramp, per 522-002 (above).

Q Is plywood an acceptable means of a temporary sidewalk?

A See FDM 222.2: (1) Maintain a smooth, clean walking surface, free of obstructions. Temporary walking surfaces must meet the same ADA requirements as the permanent installation. Materials other than concrete and asphalt may be used for the walking surface, as long as it remains firm, stable, and slip-resistant during the entire time it's open to the public.

Q On Slide 115, would a temporary midblock crosswalk have to go through the same process (of approval) that a permanent one would have to?

A FDM 240.2.1.9 If using temporary midblock crossings, meet the criteria in the TEM for permanent midblock crosswalks. Consider the use of temporary traffic signals or RRFBs with temporary midblock crossings. See FDM 240.2.2.8 and the TEM for more information.

Q The "exception" to the use of TTCD interrupting/stopping pedestrians and bicyclists is if you are completely closing those facilities and are redirecting them to other temporary crossing means?

A If I understand the question, the diversion is used when disruption to the operation of an existing pedestrian facility is somewhat limited. Complete closure of an existing ped facility requires a full temporary pedestrian way and is depicted in the contract document (TTCP - Temporary Traffic Control Plans).

Q Can you give practical application of a temporary midblock crosswalk instead of detouring to the nearest crosswalk/signal intersection?

A Temporary midblock crossings are useful when the distance to a crossing at a signalized intersection is excessive, per FDM 222.2.3.2 guidance.

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- Q Is there a minimum for the width of the truncated dome if you were to put that specific one on the left of the side perpendicular?
- A FDM 222.3 Install detectable warnings to cover the full width of the walking surface and 2 feet deep (in the direction of ped travel).
- Q If the driveway has a stop control, is it required to have ADA mats?
- A Best rule of thumb is that if the driveway warrants traffic control (e.g., signal, stop or yield sign), then DWS are required.
- Q On slide 146 (picture on the right), would it be an issue that the Longitudinal Channelizing Device (LCD) is adjacent/very close to the driveway?
- A SP 102-660 Notes 2. Place pedestrian LCDs across the full width of the closed sidewalk. Will need to exercise engineering judgement on location of all TTC devices to maximize pedestrian safety.
- Q Not sure why curb type CR-L is still in the Index 522-002 if it could guide someone with no vision to the center as mentioned before. Can you explain a little more on that?
- A While this type of curb ramp configuration may not be ideal, it may be necessary given the tight right of way and extreme physical constraints of the urban environment (e.g., C4, C5, and C6 context classifications). Additional guidance may be implemented, if necessary, like an Accessible Pedestrian Signal (APS) to effectively communicate the direction of the crossing.
- Q Are expansion joints between concrete sidewalk slabs still allowed?
- A See SP 522-001 for expansion joint details.
- Q It looks like the truncated domes on slide 111 are wider than 2'. Is that acceptable?
- A The 2'-deep requirement is a minimum. Exercise engineering judgement when electing to increase depth beyond 2'.
- Q Please share the YouTube URL. My organization blocks YouTube videos.
- A <https://www.youtube.com/watch?v=fWDaRN490BI>
- Q On Slide #9 the photo shows the sign in the middle of the street prior to crosswalk. There is no stop sign and no stop bar. What are the criteria and speed limit for that?
- A Placement of in-street panel on state highways is governed by the MUTCD and FDOT's Traffic Engineering Manual.

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- Q In the situation where there is a dead-end sidewalk, there are times where new development leaves a sidewalk to be connected into, what would be the ideal solution to a situation like this?
- A It looks like the sidewalk was terminated because of the change from flush shoulder to curb and gutter within the project limits. It's better to create functional end points, such as the next intersection, and transition the sidewalk to the shoulder if it will not be continued in flush shoulder segment. Developing a long-term vision for the corridor and dedication of right of way so sidewalks will be placed and connect within the public right of way provides for future continuity.
- Q For milling and resurfacing project - if sidewalks don't meet slope, do you have to reconstruct it?
- A FDM 222.2.1 states "For RRR Projects, other than meeting detectable warning and curb ramp requirements, unaltered sidewalks that are not in compliance with FDM criteria, Standard Plans, or ADA requirements are not required to be reconstructed." However, FDM 114 now has stronger language indicating that elements not in compliance with FDOT Guidance are to be evaluated for inclusion in the RRR project scope.
- Q The 32" minimum unobstructed width for 24" length doesn't apply to signal, light and sign poles?
- A Many signals, especially mast arms and light poles are bigger than 24" at their base, so the reduced width provision for existing utilities wouldn't apply. Also, keep in mind this allowable reduction only applies "when there is no practical alternative available to avoid an obstruction."
- Q I thought I heard in another presentation that PROWAG changed the requirement noted on slide 23 regarding the 32" clearance. Is my recollection incorrect?
- A I think PROWAG has 48" as the minimum clear width and has dropped the 32" option. See ADA Question and Answer 1.3, located here: <https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/ada/ada-faq.pdf? .>
- Q Is the maximum slope 2% or 2.08%?
- A The maximum sidewalk cross slope is 2.0%. This is a hard limit, not to be exceeded.
- Q if we are installing ramps/detectable warning pads at intersections with an existing sidewalk 48-inch width, are we allowed to install a 48-inch-wide ramp to match the existing sidewalk?
- A Yes. FDM 222.2.2 states: Provide curb ramps to be the same width as the sidewalk where practicable.

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Q How is removing the vertical clearance obstruction paid for if it's existing foliage as shown on the slide? Clear and grub? Landscaping?

A In LAP, we suggest the local contact the property owner if it is their tree/shrub growing into public rights of way. Ultimately, the owner of the public right of way would be responsible for trimming back or removing any encroaching vegetation. Similar to the scenario where a neighbor has a tree, and one large scary limb grows over your roof. You can hire someone to trim that limb at your property line. For State projects, contact the District Maintenance Office for additional guidance.

Q Standard ramp slopes to achieve a 1:12 used to be assumed to be 6' long. Now the standards show these distances to be 7'. Why?

A The Maximum ramp slope of 1:12 is shown in the standard plans. There are several sectional details in the standard plans for ramps perpendicular to the sidewalk that show a 1:12 ramp with standard length of 7'-0" (ramp varies). When the ramp is perpendicular to the direction of the sidewalk, the sidewalk 2% cross slope must be accounted for, and that could vary based on the width of the sidewalk and the presence of a utility strip...so the actual conditions at the ramp location must be used to determine the true length of the ramp (so the maximum ramp slope of 1:12 is not exceeded).

Q For curb ramp CR-F on Index 522-02, shouldn't the 2% slope be perpendicular to the direction of pedestrian travel and not the diagonal shown?

A It is shown as 2% perpendicular to the curb (edge of pavement) because it is on a radius.

Q If the 'shared-use path' is asphalt and not concrete, is it best to supply concrete transitions/driveways?

A Most detectable warning materials are meant to be applied or cast in place on concrete, so it's best to plan for a concrete section that can receive the warning material. The detectable warning materials you use need to be appropriate for the surface applied to.

FDM 222.3 The detectable warning systems on the APL are designed to work with concrete surfaces. In areas where the pedestrian facility has an asphalt surface, such as a shared use path, specify an appropriate detectable warning system or consider including a short section of concrete.

Q Do curb cut ramps need to be in the same direction as the marked crossings? The FODT Index shows some that are not directional i.e., Index 522-002 Sht 7 of 7.

A SP 522-002, General Notes, 1:  
C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.

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D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted with the ramp portion of the Curb Ramp.

Compliance with the above notes requires perpendicular joints at slope breaks (including joints at the curb line) -- which eliminates compound slopes that could lead to potential instability for some wheeled mobility devices.

The ramp has to land (be wholly contained) within the crosswalk. The ramp should align with the crosswalk, if possible, to provide non-visual, physically detectable elements. The federal ADA regulations require "effective communication" so the service, program, or activity, (or the facility, in this case) is accessible to and useable by persons with disabilities.

Q In the case of a shared-use path, when there is a driveway that crosses the path, does cross slope have to be maintained at 2% max. for the entire 12 feet or can the path be reduced (less than 12') to avoid "adverse" driveway applications?

A For shared-use paths, the entire width is expected to not exceed the 2% cross slope because we are mixing bike and ped traffic, it's important that people stay to the right relative to direction of travel. FDM 224.5 To meet ADA requirements, the maximum cross slope on shared use paths is 2%.

Q On slide 40, could they have a level landing at back of curb on the far left, then a short run of 8.3% and create a landing from the perpendicular ramp, then 15' ramp?

A Yes, that would be a much better option. This ramp would be really hard to navigate. All engineered solutions must have slopes and other surface conditions that are compliant with the maximum allowable criteria.

Q What is the best method to meet newly constructed sidewalk with less than 2% cross slope to an existing sidewalk that is more than 2% cross slope?

A It really depends on how much in excess the existing cross slope is. Sometimes you will need to warp a few segments to make the tie in. Ideally, non-compliant sidewalk within the project limits will be corrected (see FDM 114). Additionally, non-compliant sidewalk outside of the project limits should be identified and placed on the FDOT's or local agency's ADA Transition Plan inventory -- which is essentially a Corrective Action Plan which includes the expected timeframe for correction.

Q Do flared curb ramps need to be in line with the marked crosswalk?

A Curb ramps should be in line with crosswalks, but it's more important that they meet roadway perpendicular to the curb.

See also above response referencing SP 522-002, General Notes, 1. Cross slope and Grades: Joints are only permitted at slope breaks within the curb ramp and must be perpendicular to the direction of ped travel. Curb ramp configuration must provide

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non-visual, physically detectable elements to indicate appropriate alignment with the direction of the crossing. The federal ADA regulations require ""effective communication"" so the service, program, or activity, (or the facility, in this case) is accessible to and useable by persons with disabilities.

- Q On the "crosswalks" slide starting with TEM 5.2, I didn't think a concrete sidewalk area behind the transitioning curb was allowed? This presents a drop-off hazard from full height curb down to the ramp bottom, no?
- A I believe the photo in that slide (Slide 49) is actually a pedestrian refuge (porkchop) island at a right-turn slip lane with a depressed sidewalk, so the area behind the curb (in the foreground) is not a walkable surface. FDM Exhibit 222-1 details this.
- Q On slide 58 the picture on the right – would that risk a person who is blind walking into the road and not turning right?
- A The walking surface edges in the median are detectable. I have not heard of any problems with the version on the right.
- Q What if you have raised arrows?
- A Directional positioning is not tied to tactile surfaces in the requirements.
- Q Why are detectable warnings not used at transit stops?
- A They are used in some boarding and alighting areas where access to the transit stop is from the paved shoulder (flush connection), but not used when the access is from the sidewalk behind a curb line. The warning is used to communicate you are about to enter or leave the roadway. A curbed connection of the bus stop to the roadside functions as a detectable warning; bus stops with a flush connection to the roadway require a DWS to 'warn' of the interface with vehicular traffic.
- Q On slide 75 regarding street furniture, the picture shows a pole in the middle of the sidewalk. Does the concrete foundation above the sidewalk represent a trip hazard?
- A The base of the pole is detectable so probably not, and it does look like there is enough room to go behind the pole. It looks like this site was pretty tight.
- Q For commercial driveways, what do you mean by "if the driveway is controlled..."? Are you referring to stop control or signal control?
- A Stop or signal controlled, as Brad mentioned a moment ago.
- Q What is distance of detectable warming mat from roadway/ gutter joint? I am only aware of 5ft maximum up the ramp.
- A SP 522-002, General Notes, 4:  
B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement. The intent of this

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placement criteria is to keep the actual crossing distance as short as possible while also keeping waiting pedestrians at least 2' back from passing vehicular traffic.

- Q For channelizing islands at intersections, is it preferred to have (1) full-depth, curbed, channelized pedestrian paths or (2) curb ramps that transition to full-height sidewalk throughout the island?
- A FDM 210.3 includes information on channelizing and refuge islands. These are site specific designs based on the size and shape of the island with considerations for drainage and other things. FDM 222.2.3.2 provides additional guidance on the use of depressed versus raised sidewalk within median refuge islands.
- Q Should a DW be provided for a commercial driveway that has a sidewalk running continuously through the driveway?
- A Detectable warnings are to be placed on either side of commercial driveways when they are controlled. Best rule of thumb is that if the driveway warrants traffic control (e.g., signal, stop or yield sign), then DWS are required."
- Q For measuring ADA requirements in the field, does ADA require a minimum length of the digital level?
- A Every design exception should be project specific. There is no requirement for the length of the level for ADA compliance. Engineers are always encouraged to exercise judgement in the application of criteria.
- Q Are all safety hazards to be repaired within a RRR project?
- A Current FDOT policy is to address any safety hazards during the construction of a RRR project. See FDM 114.
- Q Generally, do requirements of the FDM exceed ADA?
- A Yes, FDM and FGB meet or exceed ADA.
- Q Sometimes existing conditions cause severe constraints at driveways. A 3' wide 0.02 cross slope surface used to be allowed at driveways when the slope of the driveway would be too steep for cars to traverse. This appears to no longer be allowed. How do you replace a driveway with a 4' walking surface and make the driveway usable by cars? What's the maximum allowable slope of the driveway for cars to be able to traverse it?
- A One option is to drop the driveway down to reduce the running slope of the driveway. This option isn't shown in the standard plans as it needs site specific design. All engineered solutions must have slopes and other surface conditions that are compliant with the maximum allowable criteria found in the FDM or Florida Greenbook (FGB), as applicable. See also SP 330-001 and 522-003 for driveways.

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- Q Why not provide a detectable crossing path or smart system to help the visually impaired?
- A Pavement markings, edge of pavement, sidewalk, pavers, grass are detectable with a cane.
- Q Is it possible to have a diagonal curb ramp joining crosswalks at an intersection? I know there was concern with curb ramps clearly identifying the direction. How are slopes managed as the pedestrian enters the roadway?
- A ADA does allow for one ramp to serve 2 directions of travel, but FDOT's preference is that you have two ramps, one ramp for each direction of travel. Generally, the ramp would have flared sides.
- For consideration: Curb ramp configuration must provide non-visual, physically detectable elements to effectively communicate the appropriate alignment with the direction of the crossing. The federal ADA regulations require "effective communication" so the service, program, or activity, (or the facility, in this case) is accessible to and useable by persons with disabilities.
- Q Hello. Is a TTCP required for work on local roads (city/county roadways)?
- A Yes, see the work zone safety chapter in Greenbook. This is also covered in FGB 11.E for local projects (and FDM 240 for state projects) and is a requirement of State Statute and federal regulations.
- Q ADA detectable warning shall be cast-in-place (embedded), or surface mounted?
- A Either is acceptable. With routine maintenance, both are fine.
- Q To what extent do the various FDOT and Federal guiding documents provide and maintain mobility and safety elements during nighttime construction?
- A To my knowledge, there are no differences to the TTCP requirements for daytime versus nighttime closures. Existing pedestrian facilities that are impacted during roadway construction must provide an accessible temporary pedestrian way. I would suggest reaching out to the District Design PM or DDE with any project-specific questions.
- Q I am unclear when the ADA yellow detectable warning surface is used when you are approaching driveways.
- A Detectable warnings should be used at driveways when the driveway is controlled (e.g., stop or yield sign, or signal). Brad discussed this morning and will be captured in the recording for later reference.
- Q Is it acceptable to just close the sidewalk?
- A No, once the sidewalk exists, an accessible route must be maintained.

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- Q How about yellow DWS at bus stops? We add a raised curb for the B&A and the design engineer states that we need a yellow detectable at the drop of the curb --this is for an uncurbed roadway. Is this correct?
- A Yes, on flush shoulder roadways a pedestrian may approach or depart the boarding and alighting area from the shoulder, and they need to know they are about to enter the travel way. A DWS is not required if the connection is curbed.
- Q All driveways with stop condition will require a ADA warning surface. Is this a new requirement, and is there a standard which clearly states this requirement?
- A Too many detectable warnings can be an overwhelming amount of information. Best rule of thumb is that if the driveway warrants traffic control (e.g., signal, stop or yield sign), then DWS are required. See FDM 222.3.
- Q Thanks - I was really asking whether the fact that if the crosswalk used pavers rather than asphalt would that make the skewed entry angle of the ramp less offensive, since the visually impaired would be able to detect the difference in pavement type.
- A The use of pavers, and this is probably stamped asphalt, can possibly make it harder for a person in a wheelchair. FDM 222.2 Pedestrian safety can be enhanced through the following measures: (1) Maintaining a smooth, clean walking surface, free of obstructions. There must not be any instantaneous changes in level greater than 1/4" or horizontal gaps (joints) greater than 1/2". This is sometimes difficult to achieve with brick pavers or other so-called "detectable" surface material. For additional information, please see ADA Question and Answer 2.10, located here: <https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/ada/ada-faq.pdf?>.
- Q Where is it documented that the crosswalk can be up to 5% through controlled intersections?
- A FDM 222.2.3 The maximum cross slope for crosswalks is 2%. For crosswalks located at signalized intersections, midblock, or driveways, cross slope may exceed 2% but not greater than 5%.
- Q To confirm, only side streets and curbed driveways should have DWS. Any flared driveways for commercial properties should not include DWS unless they have a stop sign, yield sign, or traffic signal.
- A All side streets or where the driveway would be controlled by a stop sign, yield sign, or signal require DWS. See FDM 222.3 for a full explanation of DWS placement on State projects. If you have project-specific questions, please reach out to the District Design PM, ADA Coordinator, or DDE.

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- Q I've noticed in my personal time in general lawn care companies and their employees that are trimming back hedges, vegetation, etc. ; either don't care or don't know the height requirements of unobstructed access. I've seen time and time again of hedges being shaped and trimmed but having some of them protrude out into the sidewalks/walkways. This is in general and not necessarily on roadways, etc. Does FDOT send out the updated information to the registered companies for lawn maintenance/care/landscaping? I'm looking towards being more proactive versus reactive.
- A We would email/communicate with those that are prequalified maintenance contractors for landscape with the department, but we wouldn't contact landscapers in general.
- Q Does urban flared commercial driveway with a stop sign require a DW?
- A Yes. What matters is that it's a stop or signal controlled commercial driveway. Best rule of thumb is that if the driveway warrants traffic control (e.g., signal, stop or yield sign), then DWS are required.
- Q In the morning session, it was mentioned that the pedestrian push button must be centered on the 48-inch side of the 30"x48" flat area. Why can't the push button be centered on the 30" side?
- A This is related to mobility aid size (e.g., motorized wheelchair) and ease of approach to the pushbutton as well as maximum permissible side reach (10" max.).
- Q What did Brad mean when he said this morning that Florida is not a PROWAG state?
- A FDOT uses the FDM which meets or exceeds PROWAG requirements. Other states may not have their own design standards and default to PROWAG or current federal minimums in the 2010 ADA Standards for Accessible Design (ADASAD).  
See ADA Question and Answer 1.3, located here:  
<https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/ada/ada-faq.pdf?>
- Q Back to the 5% cross slope question, PROWAG says "Where pedestrian access routes are contained within pedestrian street crossings with yield or stop control, the cross slope of the pedestrian access route must be 2 percent maximum (see R302.6)."
- A FDM 222.2.3 Crosswalks The maximum cross slope for crosswalks is 2%. For crosswalks located at signalized intersections, midblock, or driveways, cross slope may exceed 2% but not greater than 5%.
- Q We have had municipal inspectors require the truncated domes to line up with the intended direction of travel, is there a FDOT spec that calls this out?
- A Some people feel that the alignment of the domes are used for directional guidance, but they are not. The only time when they need to align with direction of travel is when they are placed on a surface with a longitudinal grade 5% or steeper, because then they begin to affect a person's ability in a wheelchair to push through them.

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- Q I cannot verify the assertion on slide 49 regarding "cross slope may exceed 2% but not greater than 5%". It's not in the TEM 5.2.
- A FDM 222.2.3 The maximum cross slope for crosswalks is 2%. For crosswalks located at signalized intersections, midblock, or driveways, cross slope may exceed 2% but not greater than 5%.
- Q A comment/question on the slide that showed two options with a pedestrian median refuge. These are a great idea, but I do not like the option that angles the pedestrian walk. I think that can encourage pedestrians to try and run straight across. I also think the median refuge should be circled with landscaping or fencing so pedestrians cannot walk straight across and must follow the pedestrian path.
- A I would suggest reaching out to FDOT CO/Roadway/Criteria section. These details have been reviewed and approved by all District Roadway Design Engineers and District Design Engineers, as well as, the FHWA.
- Q Comment – I frequently have issues with contractors temporarily moving bus stops and not installing them oriented correctly towards the road. Also, despite getting assurances from the outset that access to bus stops will be maintained, bus stop signs often mysteriously disappear at the end of projects, like magic.
- A FDM 240.2.1.9 Ensure provision is made to allow transit users to access transit stops, and to board and depart transit vehicles safely. Temporary transit access must include provisions for the disabled at the same level of accessibility as the existing facility or greater. See FDOT's Accessing Transit Handbook for additional guidance on transit stops. Provisions for accessible transit are required by the FDM and Florida Greenbook and must be enforced by CEIs on the project.
- Q Tighten radius and provide detectable warning like you suggest. Also need valley gutter.
- A This presents an opportunity for an innovative engineering solution.
- Q Stop bar past the crosswalk would be in violation of FDM criteria for stop bar to be 4-feet prior to the crosswalk.
- A This presents an opportunity for an innovative engineering solution.
- Q Mobi-mat is being used at Silver Springs State Park as temporary PAR. <https://www.mobi-mat-chair-beach-access-dms.com/>
- A Must exercise caution to ensure the subgrade is prepared properly so the final walking surface remains firm, stable, slip resistant.

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- Q If a DW pad was imbedded in the new concrete ramp but does not extend the full width of the sidewalk and the pad needs to be extended to complete the edge-to-edge requirement, can the new extension be applied to the concrete surface without having to grind the concrete down to create a flush surface. There would be a .250" difference in height. See slide 141.
- A Yes, I would recommend the DWS extension be installed in the same manner as the existing DWS surface – so the entire DWS is flush.
- Q A mat would be much better than grass and cleaner than lime rock. I have driven (I'm a manual wheelchair user over 25 years) on both the Mobi-Mat, lime rock, and prefer mobi-mat as lime rock has "ball bearings" in the form of gravel.
- A This presents an opportunity for an innovative engineering solution.
- Q A diversion excessive in length will not be adhered to by a pedestrian. They will seek a shorter route even if they have to walk in the travel lane. Human nature!
- A This presents an opportunity for an innovative engineering solution.
- Q If a new sidewalk is being constructed between several existing driveways and the driveways are not being reconstructed and are between 2% and 4% and the new sidewalk will need to tie into them, is there any issue with short runs of sidewalk that will transition from 2% to possibly 4% at these existing driveways? Thanks for your input!
- A Ideally, non-compliant sidewalk and driveways will be corrected. See FDM 114. Work with the District PM and ADA Coordinator for the project to determine the appropriate course of action.
- Q How quickly will PROWAG be incorporated into the standards?
- A The FDM and Standard Plans already meet or exceed PROWAG requirements. We have heard that the process of full adoption by the U.S. DOJ and U.S. DOT could begin as early as Fall 2022, but it's impossible to predict a final implementation date.
- Q Why do the state roads follow FDM and all other roads follow FL Greenbook? Why are they different?
- A State roads are typically for larger capacity with wider cross-section and higher design speeds. Local roads are usually lower capacity and speed. The predecessor to the FDM (the PPM) was born out of acknowledgement that that SHS/NHS needed to achieve a higher level of criteria that was not necessarily needed or desired on local systems.
- Q Does the 2% cross slope apply to the crossing of an intersecting street even if the centerline slope of the intersecting street exceeds 2%?
- A 222.2.2 Crossings are required to meet the same grade and cross slope requirements as sidewalks.

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- Q ADA defines a pedestrian, but does that include bicyclists. Are the ADA requirements applicable to bike users, and if so to what extent?
- A Shared Use Paths are an example of a bike facility that must meet ADA criteria because pedestrians also use the same walking surface.
- Q Do you put a ramp at a terminal end of a s/w if there is no safe receiving location on the other side of the road?
- A It's better to create functional end points, such as the next intersection, and transition the sidewalk to the shoulder if it will not be continued in flush shoulder segment. For curbed roadways, curb ramps must be installed at both ends of designated crossings. Developing a long-term vision for the corridor and dedication of right of way so sidewalks will be placed and connect within the public right of way provides for future continuity.
- Q On a RRR project if there is an existing non-compliant concrete driveway that has portions that are broken, can those portions be replaced or does the complete driveway need to be replaced to meet current standards?
- A 222.2.2.1 Driveways For RRR Projects, unaltered driveways that are not in compliance with Standard Plans or ADA requirements are not required to be reconstructed.  
However, once the driveway is touched by a project -- i.e., included in the scope of the project -- then the project is obligated to correct all deficiencies of the driveway and sidewalk, bringing them into compliance with new construction criteria. Work with the District PM and ADA Coordinator for the project to determine the appropriate course of action.
- Q In other states/cities audible devices are in place for the blind community. Is FDOT currently using or planning to use such devices?
- A FDM 232.6.1 Accessible Pedestrian Signal Feature Where pedestrian facilities are provided, include provisions (e.g., conduit, conductors, signal cables) needed for future use of Accessible Pedestrian Signal (APS) devices on all new and reconstructed signalized intersections and signalized midblock crossing locations.  
See TEM 3.7 for installation and operation criteria of Accessible Pedestrian Signals on the State Highway System. Beyond the above provision, the TEM 3.7 provides instructions on how to accommodate requests for the installation of APS.
- Q I would like to hear a discussion about detours for pedestrians/bicyclists greater than allowed distance versus a lane closure.
- A I would say to use your best engineering judgement for the purpose of providing a safe and accessible temporary route. If you need assistance, you can always reach out to the district Design PM and/or the District ADA Coordinator.

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- Q How does the picture on the left meet the two-foot requirement if they are following the curb and sidewalk joint on the left-hand side?
- A As stated during the discussion: While the image shows a technically compliant DWS installation, there may be a better solution. I would encourage the engineering community to explore other possible options to improve accessibility while at the same time meeting all the other relevant criteria (e.g., drainage, operations, etc.).
- Q There are mast arm foundations that protrude above the sidewalk similar to the raised sidewalk shown in slide 175. Would the raised mast arm concrete foundation be non-compliant?
- A The protruding foundation at the base of the pole is detectable. So as long as the minimum unobstructed walking surface is provided around it, it's compliant from that aspect.
- Q I've seen locations where a raised curb is used to protect a drop-off hazard. Is this acceptable?
- A 222.4 Pedestrian Drop-off Hazards and Railings A pedestrian drop-off hazard is a steep or abrupt downward slope that can be hazardous to pedestrians. There are two pedestrian drop-off hazard conditions defined in Figure 222.4.1. Additionally, depending on the height of a slope and the severity of the conditions beyond, cases other than those shown in Figure 222.4.1 may also be considered a pedestrian drop-off hazard. When the pedestrian drop-off hazard cannot be eliminated, consider the following:
- There's too much info to copy into this response, but the FDM reference above provides two Cases in Figure 222.4.1. When the drop off cannot be eliminated, fencing or railing are the indicated approach. A curb line will not protect a pedestrian from falling over the curb."
- Q If you see violations and want them addressed who should be notified?
- A I'd suggest reaching out to the District ADA Coordinator (DADAC) first, because they are located regionally and usually better able to meet in the field for reviews, if necessary. Of course, you can always reach out to me (Brad Bradley, FDOT State ADA Coordinator) in Tallahassee, too; though, 99% of the time, I'm going to contact the DADAC to investigate the situation and coordinate the corrective action with district resources.
- Q Has FDOT given any thought to "standardizing" a clearance height over sidewalk? Any of the heights noted today did not take into consideration for site clearance for signs along the road/sidewalk. This would help across all phases of ROW maintenance and ADA compliance.
- A The criteria presented today is for compliance with the ADA for accessible pedestrian rights of way. Engineers designing projects for state and local governments are responsible for harmonizing all criteria for the safety of all users and modes,

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including pavement design, drainage, traffic ops, pavement markings, bike/ped, ADA, just to name a few. This is a good comment, but unique project- and site-conditions will dictate the appropriate approach.

- Q Is there difference in specifications between cast in place vs screw down detectable warning mat?
- A Spec 527 covers DWS installation and Spec 974 covers DWS materials. In CIP and screw down, the product must be installed according to manufacturer's instructions. If the product is on the APL, then it meets the applicable Specs. Spec 974 requires the use of both surface applied adhesive and mechanical fasteners. Each type comes with its own advantages and possible drawbacks. The engineer must evaluate which type will function as intended for its service life, considering all kinds of potential vectors for damage.
- Q Can you go over the RR flangeway gaps required?
- A FDM 222.2.4 At-Grade Railroad Crossings Flangeway gaps are necessary to allow the passage of train wheel flanges; however, they pose a potential hazard to pedestrians who use wheelchairs because the gaps can entrap the wheelchair casters. A maximum flangeway gap is required for all at-grade pedestrian rail crossings of 2½" for all non-freight rail track and 3" for freight rail track.